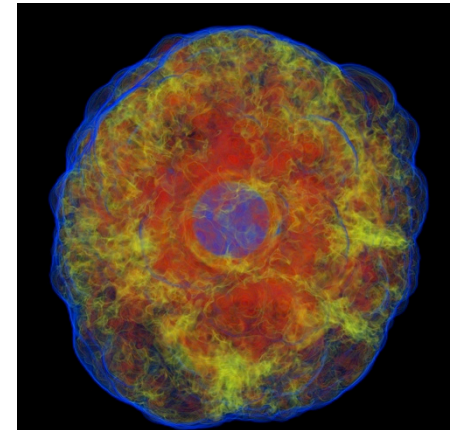
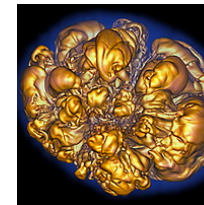
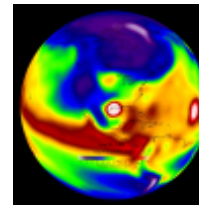
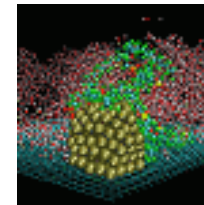
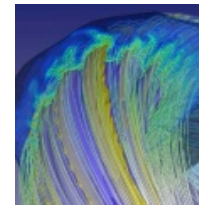
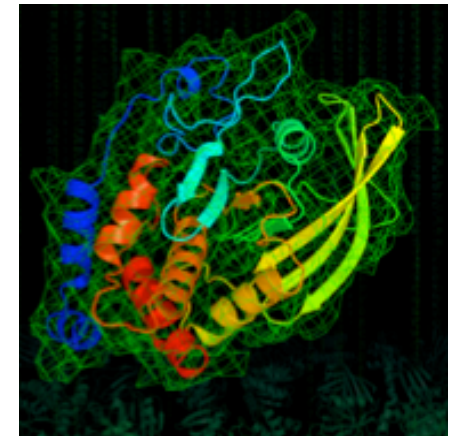
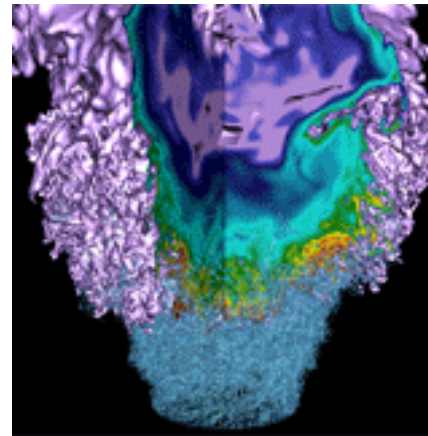


NUG Monthly Webinar – January 2015



NUG Monthly Meeting
January 15, 2015

Agenda



- **2015 System Availability Schedule – Elizabeth**
- **NUG 2015 – Feb 23-26, Berkeley/Oakland**
- **2014 User Survey – Dave Turner**
- **NUGEX Elections**
- **Changes for the 2015 Allocation Year – Dave Turner**
- **System Updates**
 - Edison – Zhengji Zhao/Tina Declerck
 - Hopper – Helen He
- **New in MyNERSC – Jack Deslippe**
- **NERSC 24x7 Services – Elizabeth Bautista**

Early AY15 Maintenance

- **Tuesday January 13**
 - AY15 begins
 - Please report any issues you are encountering
- **Jan 13 – Jan 16**
 - Edison DIMM replacement
- **Feb 3-4**
 - Quarterly Maintenance
 - Center-wide outage
 - Completely off network for a few hours
 - Hopper /scratch2 Lustre upgrade
- **Feb 18**
 - Hopper /scratch Lustre upgrade
 - Will be performed during Feb 3-4 Quarterly Maintenance
- **March**
 - Hopper OS upgrade

Rough timeline of system activities

| System status | Date |
|---------------------------------|---------------|
| Carver Retires | Sep. 30, 2015 |
| Cori Phase 1 available to users | Sep. 2015 |
| Edison goes down to move to CRT | Oct. 2015 |
| Edison comes back up in CRT | Nov. 2015 |
| Hopper Retires | Dec. 2015 |
| Cori Phase 2 Delivered | June 2016 |

Key Points!!!

- Compute early in the year!
- Large supply available in ~Sept. 2015 with Hopper, Cori Phase 1 and Edison online
- Dearth of computing around October when Edison goes down

- **Feb. 23-26, 2015**
- **Site: Berkeley/Oakland**
- **Monday, Feb. 23: New User Training**
- **Tuesday, Feb. 24: Science and Technology Day**
- **Thursday, Feb. 25: In-Depth Training**
 - We're trying something new!
 - Hack-a-thon: brief instruction and then hands-on optimization of your kernel or one of our examples, with an eye toward Cori
- **Wednesday, Feb. 26: Business Meeting**

2014 User Survey



- **We need your help to reach survey participation goals!**
- **Have 400 responses, need 600**
- **Encourage your colleagues!**
- **Important for reporting to DOE and to help us serve you better.**

<https://www.nersc.gov/news-publications/publications-reports/user-surveys/2014/>

New NUGEX Members



- **232 NERSC users voted to elect 8 new members**
- **Thanks to all retiring members, including long-time Chair Stephane Ethier**

Fusion

Chris Holland, UCSD

David Green, ORNL

Nuclear Physics

Balint Joo, JLAB

Nicolas Schunck, LLNL

High Energy Physics

Ted Kisner, LBNL

Frank Tsung, UCLA

Zarija Lukic, LBNL

At-Large

James Amundson, FNAL

Allocation Year Rollover



- **AY15 began Tuesday, January 13**
 - AY14 ended 23:59:59 Monday, January 12
 - New allocations put in place at midnight
 - Running jobs unperturbed
 - Charges prorated to appropriate AY repo
 - Jobs associated with non-continuing repo get AY15 portion charged to a NERSC overhead repo
- **Hopper queue charge factor increased**
 - For “regular” charge class (debug, regular, thruput, ccm_queue, ccm_int, killable)
 - From 0.8 to 1.0
 - Had been reduced to 0.8 last August to balance workload with Edison

<http://www.nersc.gov/users/announcements/allocation-year-rollover>

- **DIMM Replacement (two phases)**
 - First phase: Sept 25-28, 2014 completed
 - Second phase: Jan 13-16, 2015 in progress
- **CDT 15.01 will be set to default**

cray-ccdb/1.0.5

cray-ga/5.3.0.1

cray-lgdb/2.4.0

cray-mpich/7.1.1

cray-mpich-abi/7.1.1

cray-petsc/3.5.2.1

cray-petsc-complex/3.5.2.1

cray-shmem/7.1.1

cray-tpsl/1.4.3

cray-trilinos/11.12.1.0

fftw/3.3.4.1

papi/5.3.2.1

perftools/6.2.2

perftools-lite/6.2.2

cce/8.3.7

gcc/4.9.2

Available (non-default)

cray-ccdb/1.0.4

cray-mpich/7.1.0

cray-mpich-abi/7.1.0

cray-petsc/3.5.2.0

cray-petsc-complex/3.5.2.0

cray-shmem/7.1.0

cce/8.3.6

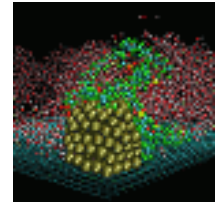
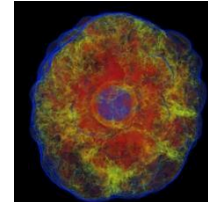
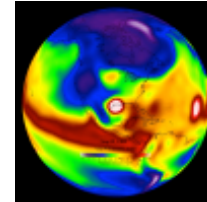
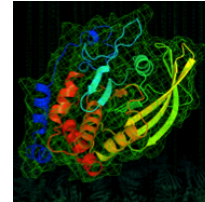
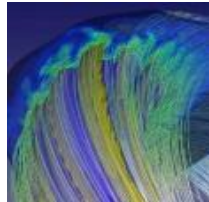
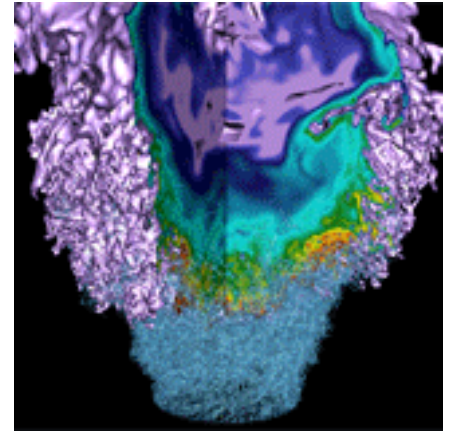
Upcoming Maintenances for Hopper

- **The previously announced Jan 27 Hopper /scratch2 file system upgrade will be postponed to Feb 3-4**
 - In conjunction with the NERSC quarterly maintenance
 - All files on /scratch2 will be deleted
 - Users are encouraged to hold /scratch2 jobs ahead of time, then release them after necessary data are put back after maintenance
- **The /scratch file system upgrade will be performed on Feb 18**
 - Instead of originally announced Feb 10
 - All files on /scratch will be deleted
- **The OS upgrade will be scheduled in March**
 - New OS and new default Programming Environment Software
 - All applications need to be rebuilt

Batch Queue Changes on Hopper

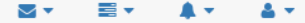
- **Started from beginning of AY15**
- **The relative queue priorities are adjusted**
 - No more higher priorities for reg_med and reg_big
- **Idle limits increased for some queues**
 - reg_small, reg_long, and ccm_queue
- **Details on Hopper Queue Configuration page**
 - <https://www.nersc.gov/users/computational-systems/hopper/running-jobs/queues-and-policies/>

What's New In MyNERSC



Queue Wait-Time Prediction

Click to go back, hold to see history



- jdeslip
- Dashboard
- Queues
 - Carver
 - Edison
 - Edison Serial
 - Hopper
 - Hopper Serial
 - PDSF
 - Backlogs
 - Queue Wait Times
- Center Status
- File Browser
- Completed Jobs
- My Tickets

Queue Wait Times

Queue Wait Time Historical Estimator

Machine

Edison

What do you know about your job?

Wall Time Required

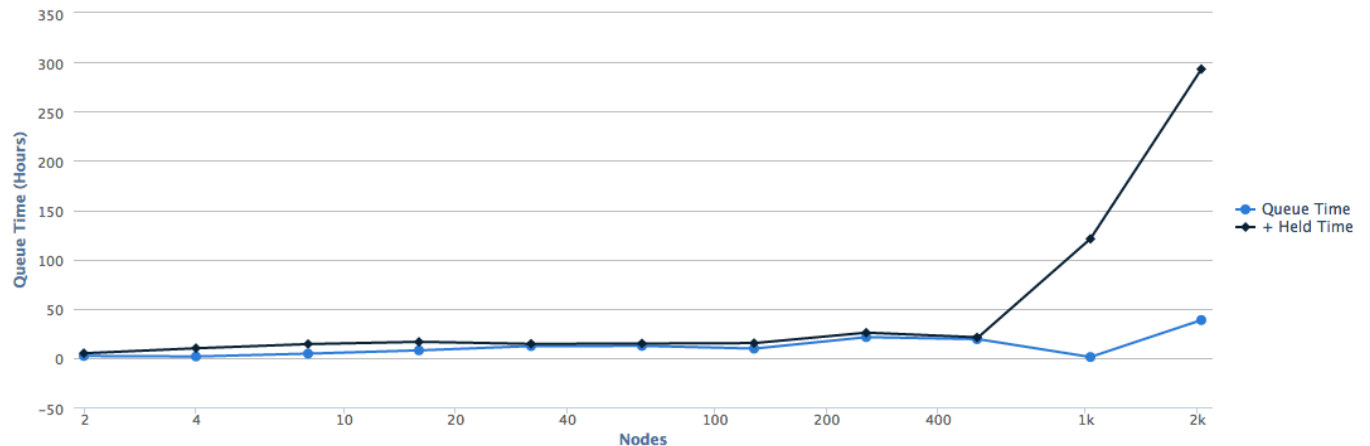
Days Back of Data to Query

14

Wall Time Required

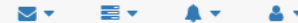
.5 Hours

Average Queue Wait



Track the Backlog

My **NERSC**



jdeslip

Dashboard

Queues

Carver

Edison

Edison Serial

Hopper

Hopper Serial

PDSF

Backlogs

Queue Wait Times

Center Status

File Browser

Completed Jobs

My Tickets

Backlog History

Queue Backlog Over Time

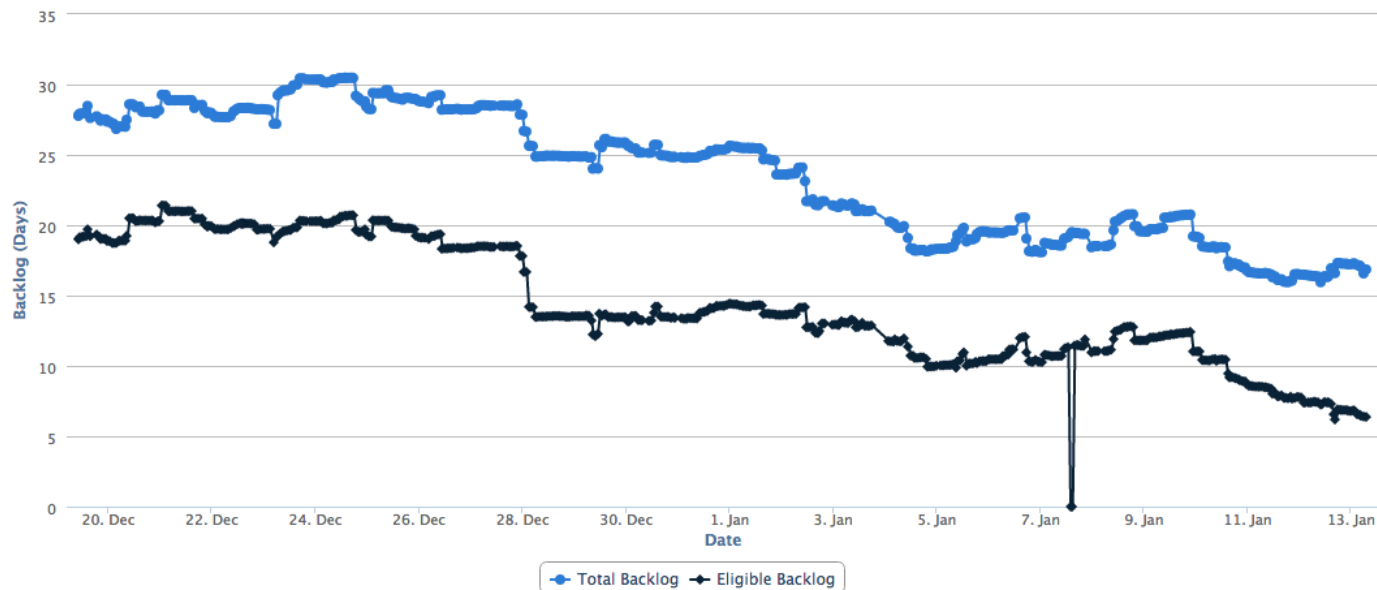
Machine:

Edison

Queue:

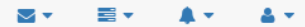
All

Queue Backlog Over Time



Usage Summary

My **NERSC**



jdeslip

Dashboard

Queues

Center Status

Announcements

Benchmarks Monitor

Filesystems Monitor

Interactive Nodes

Now Computing

Outage Calendar

Outage Log

Usage Summary

File Browser

Completed Jobs

My Tickets

Usage Summary

Repo Usage

Repo:

als

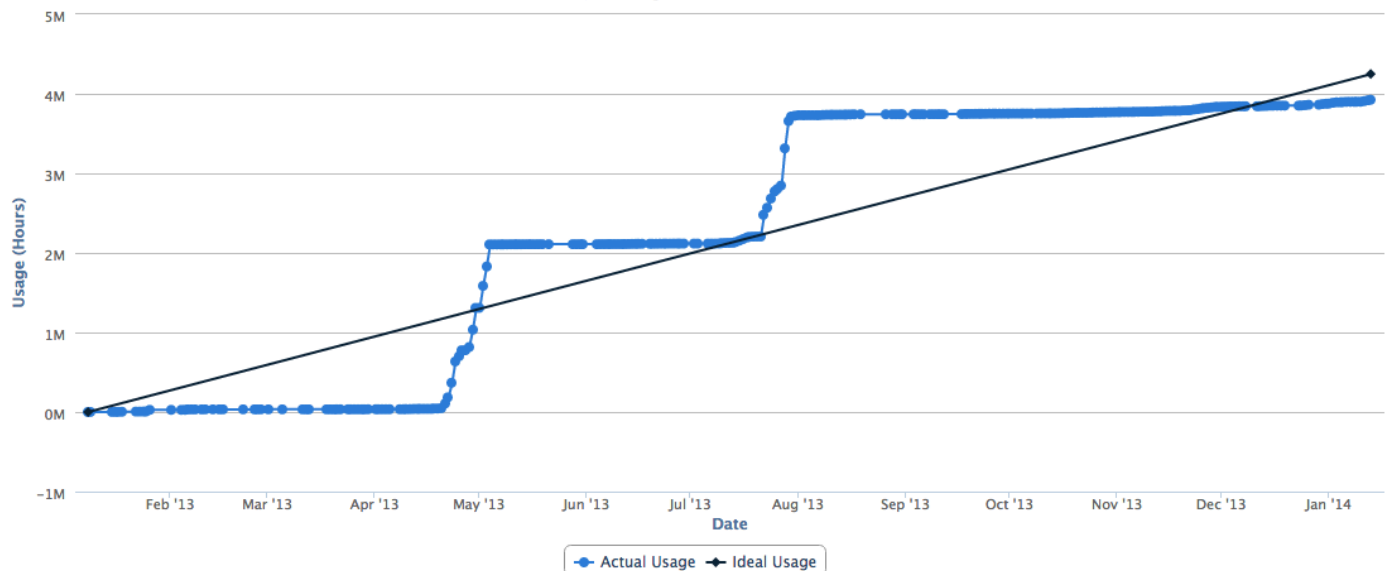
Machine:

Compute

Year:

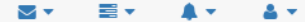
2013

Repo Usage Over Time



Benchmark Monitoring

My **NERSC**



jdeslip

Dashboard

Queues

Center Status

Announcements

Benchmarks Monitor

Filesystems Monitor

Interactive Nodes

Now Computing

Outage Calendar

Outage Log

Usage Summary

File Browser

Completed Jobs

My Tickets

Benchmarks Monitor

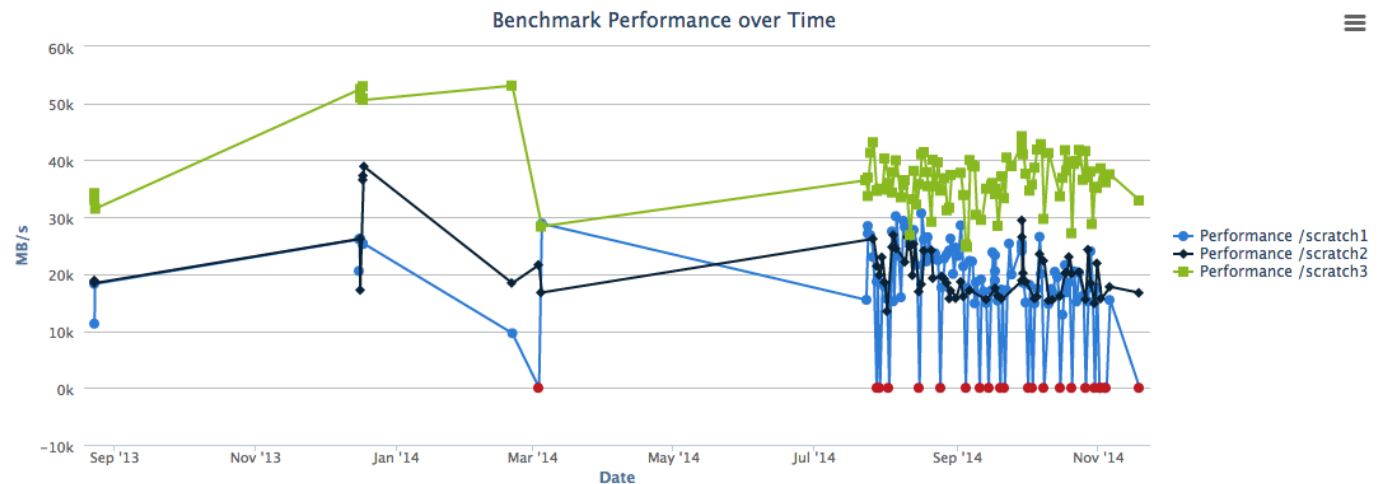
Benchmarks Monitor

Hostname

Edison

Benchmark

IOR 1M MPIIO READ

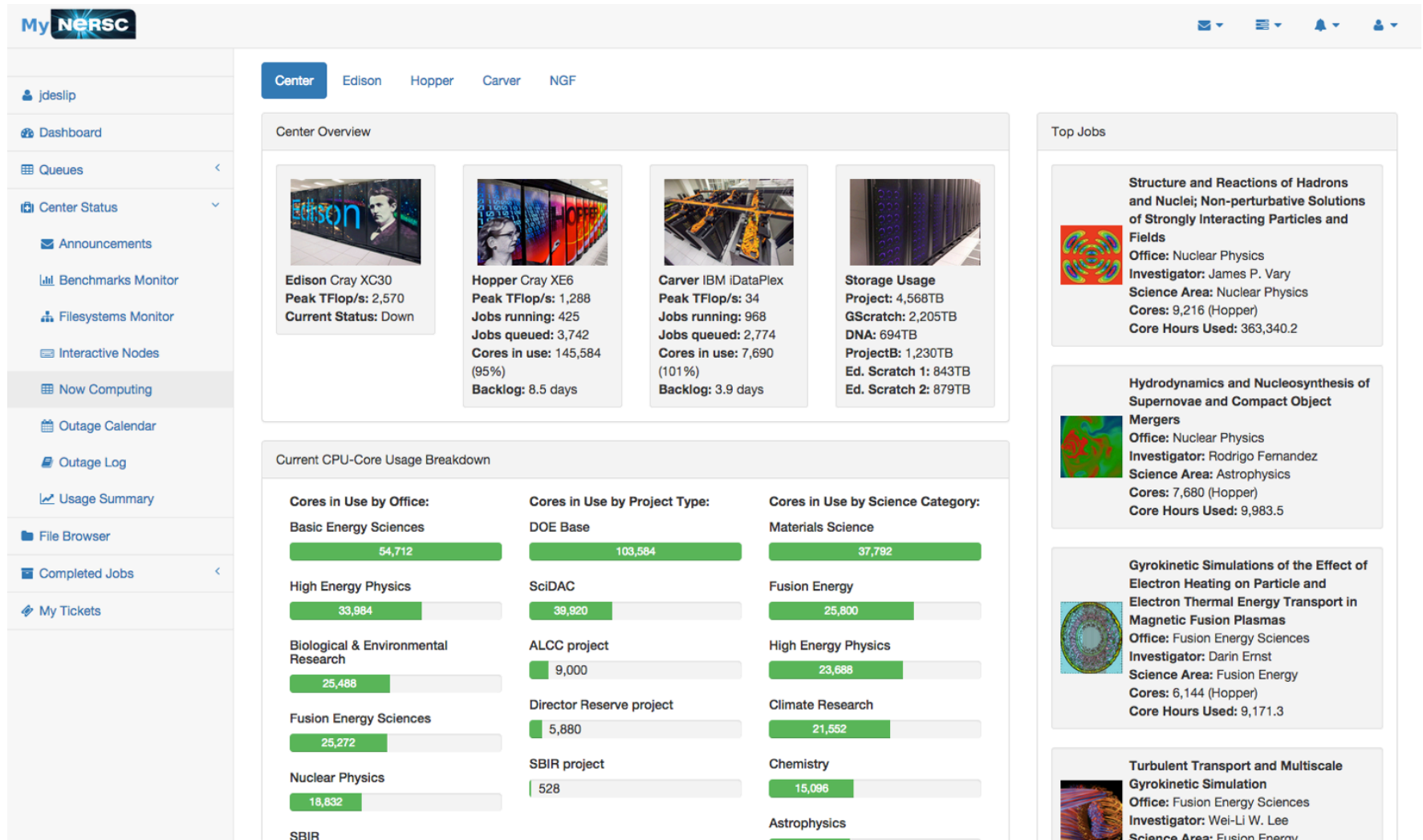


Average: 26946.73

Std Dev: 9392.01

Variation: 34.85%

Center Summary

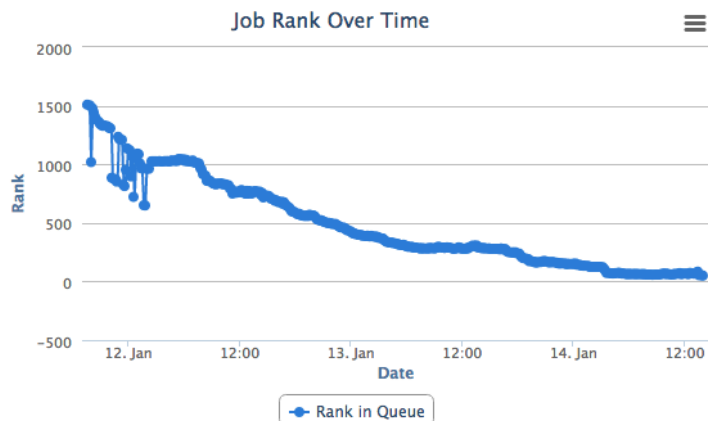


Richer Job Details

8608181

x

| | |
|----------------|-----------------|
| Name | HP101MA |
| Queue | reg_small |
| Repo | m1700 |
| Nodes | 12 |
| CPUs | 288 |
| State | Idle |
| Time Submitted | Jan 11 19:33:00 |
| Time Required | 12:00:00 |
| Rank | 48 |



Close

2129902

x

| | |
|----------------------|----------------|
| Name | my_job |
| Host | Edison |
| Account | mpccc |
| Queue | regular |
| Queued Time | 12/03/14 13:19 |
| Start Time | 12/03/14 13:27 |
| Completion Time | 12/03/14 13:55 |
| Nodes | 5 |
| CPUs | 120 |
| Wall Hours Used | 0.474 |
| Wall Hours Requested | 1.000 |
| CPU Hours Used | 56.83 |

STD-ERR

STD-OUT

Batch Script

Aprun Information:

Show Libraries

| # | Command | Nodes | Time | Memory |
|------|--|-------|--------|--------|
| 0 | parsec-ftn-ifort-14.0.2.mpi+pat | 5 | 1,690s | 54MB |
| Lib. | /global/u2/j/jdeslip/SVN/parsec_1.4/trunk/parsec/src/parsec-ftn-ifort-14.0.2.mpi+pat | | | |
| Lib. | /usr/lib64/gcc/x86_64-suse-linux/4.3/../../../../lib64/crt1.o | | | |
| Lib. | /usr/lib64/gcc/x86_64-suse-linux/4.3/../../../../lib64/crti.o | | | |
| Lib. | /usr/lib64/gcc/x86_64-suse-linux/4.3/crtbeginT.o | | | |
| Lib. | /opt/intel/composer_xe_2013_sp1.2.144/compiler/lib/intel64/for_main.o | | | |
| Lib. | obj/ftn-ifort-14.0.2.mpi/cfftw.o | | | |

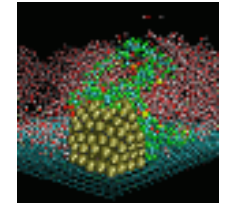
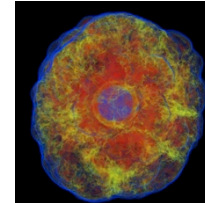
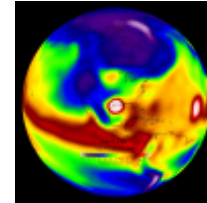
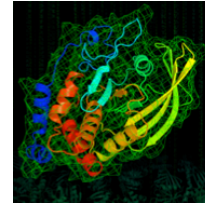
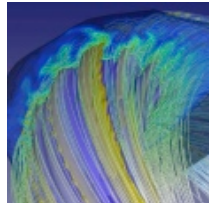
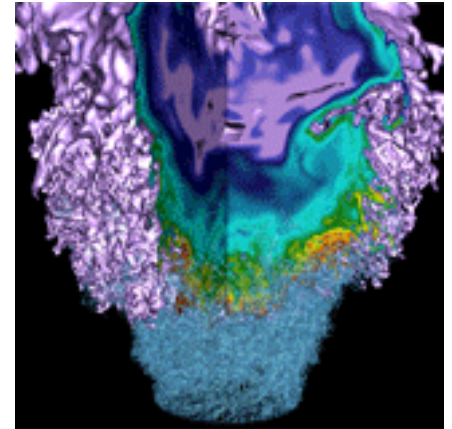
Did You Know?



On MyNERSC, you can:

- Plot the rank of your job over-time in the queue
- Hold, Release, Delete your jobs
- Download any of your files and upload new files. Including from HPSS
- Monitor the NERSC Filesystem Performance over time
- Subscribe to the NERSC Outages Via Google calendar
- Create and Manage Your Service Now Support Tickets
- View a History of All NERSC Outages and Announcements
- Change Your Default Repo and Default Shell

24x7 Services



What Services Are Available 24x7



- **Password reset:**

- <https://nim.nersc.gov/forgotpass.php>

- set up your security questions
 - <http://www.nersc.gov/users/accounts/nim/nim-guide-for-users/>
 - Account support number 800-66NERSC or 510-486-6821
 - Operations 24x7 – they will remind you to go to the URL
 - If you are locked out, we will go through setting up your security questions

More 24x7 Services...



- **Attach Computer User Agreement to the account once it's been approved by PI**
 - in case you need account activated right away
 - please do this ahead of time; approvals may not happen off hours
 - New users; verify if account is done w/ set up, locked out, walk through on how to log in the first time
 - Verify information they are seeing ie allocated hours in NIM, modules available, remind users where to find info ie on NERSC website
- **System status**
 - immediate reporting for status or diagnosis
 - job cannot be deleted

Any questions?



Thank you.